



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,913	06/24/2003	Kenichi Hashizume	852.0029.U1(US)	4355

29683 7590 01/10/2008  
HARRINGTON & SMITH, PC  
4 RESEARCH DRIVE  
SHELTON, CT 06484-6212

EXAMINER
----------

CHANG, RICK KILTAE

ART UNIT	PAPER NUMBER
3726	

MAIL DATE	DELIVERY MODE
01/10/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/603,913

Applicant(s)

HASHIZUME ET AL.

Examiner

Rick K./Chang

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 33-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 33-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/2/07 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sullivan et al (US 7,181,172) in view of Denes (US 5,220,488).

Sullivan discloses forming a cellular phone 800 using two shot molding wherein molds the base and contact plating directly into the back panel (col. 3, lines 54-55; col. 4, lines 1-40; and Fig. 7). Col. 3, lines 36-55 discloses metallic materials such as circuitry such as the electrical supply for the call vibrator, antenna transmission lines, detection circuitry; it is inherent that most commonly used plating method is either electroless or electroplating; it is inherent that during the assembly of a mobile phone electronic components are connected to the call vibrator, antenna transmission lines, detection circuitry. The integral connector structures, between 504cs in Fig. 5 or 1004s in Fig. 10 or 908s in Fig. 10, are configured (for example, there is a space

Art Unit: 3726

between 1004s in Fig. 10) to receive at least a portion of a connecting member of the electronic component therein. Sullivan fails to disclose moulding electrical circuitry and providing an opening.

Denes discloses in Fig. 16 shows moulding circuitry shown in Fig. 15 and 22 are opening to receive a portion of a connecting member.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sullivan by disclose moulding electrical circuitry and providing an opening, as taught by Denes, for the purpose of introducing the molded parts to harmful and corrosive chemical treatment and allowing electrical communication with other electronic components.

4. Claims 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sullivan et al (US 7,181,172)/Denes (US 5,220,488) as applied to claims disclosed above, and further in view of Politycki et al (US 3,767,538).

Sullivan/Denes fail to disclose treating the plastic material with a seeding or conductive metal.

Politycki discloses treating the plastic material with a seeding or conductive metal (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sullivan/Denes by treating the plastic material with a seeding or conductive metal, as taught by Politycki, for the purpose of enhancing adhesion between a resin layer and a metal layer.

Art Unit: 3726

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sullivan et al (US 7,181,172)/Denes (US 5,220,488)/Politycki et al (US 3,767,538) as applied to claims 12-13 and 15 above, and further in view of Murakami et al (US 4,239,813).

Sullivan/Denes/Politycki fail to disclose that the carrier material comprises an ink and printing the carrier material on the substrate.

Murakami discloses the carrier material comprises an ink and printing the carrier material on the substrate (col. 1, lines 33-39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sullivan/Denes/Politycki by the carrier material comprises an ink and printing the carrier material on the substrate, as taught by Murakami, for the purpose of enhancing adhesion between a resin layer and a metal layer.

6. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sullivan et al (US 7,181,172)/Denes (US 5,220,488)/Politycki et al (US 3,767,538) as applied to claim 12 above, and further in view of Nishihara et al (US 5,118,458).

Sullivan/Denes/Politycki fail to disclose press moulding the substrate, moulding the connector onto the cover member after the substrate has been moulded to form the cover member, providing a flexible holding member in the connector structure to hold the electronic component in electrical communication with the electrical circuitry and a resilient member for the flexible holding member.

Nishihara discloses press moulding (Fig. 5 shows 2 pressing onto 1 with substrate therebetween), moulding the connector (Fig. 7 element 16) onto the cover member (Fig. 7 shows a second layer) after the substrate has been moulded to form the cover member, providing a

Art Unit: 3726

flexible holding member in the connector structure to hold the electronic component in electrical communication with the electrical circuitry and a resilient member for the flexible holding member (Fig. 13 shows interconnecting the layers as a second molding, Fig. 15 shows mounting components, all the layers are flexible and resilient member, the layers can be any number depending on the design criteria).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sullivan/Denes/Politycki by press moulding the substrate, moulding the connector onto the cover member after the substrate has been moulded to form the cover member, providing a flexible holding member in the connector structure to hold the electronic component in electrical communication with the electrical circuitry and a resilient member for the flexible holding member, as taught by Nishihara, for the purpose of molding a multi-layer flexible circuit for mobile phones.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims as disclosed above have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. Please provide reference numerals (either in parentheses next to the claimed limitation or in a table format with one column listing the claimed limitation and another column listing corresponding reference numerals in the remark section of the response to the Office Action) to all the claimed limitations as well as support in the disclosure for better clarity (optional). Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that

Art Unit: 3726

the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (571) 272-4564. The examiner can normally be reached on 5:30 AM to 1:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rick K. Chang/  
Primary Examiner, A.U. 3726

Application/Control Number: 10/603,913

Page 7

Art Unit: 3726

RC

January 5, 2008